

**National Park Service**

Lewis & Clark

National Historic Trail

IA, ID, IL, IN, KS, KY, MO, MT, NE, ND, OH, OR, PA, SD, WA, WV

NPS.gov (<https://www.nps.gov/>) / *Park Home* (<https://www.nps.gov/lecl/index.htm>)/ *Learn About the Park* (<https://www.nps.gov/lecl/learn/index.htm>) / *Nature* (<https://www.nps.gov/lecl/learn/nature/index.htm>) / *Climate Change*

Climate Change

Climate change is reshaping the world as we know it. It has serious consequences for people and ecosystems alike—including those that live along the Lewis and Clark National Historic Trail.

The trail gives us a unique opportunity to look at the challenge of climate change across space and time. Its 4,900 miles—and iconic story—can tell us a lot about what climate change looks like, how it happened, and where to go from here.

As human-caused climate change moves us into uncharted territory, we need to work together to navigate the change. Along the way, we can learn from nature, from each other, and from our history. People have risen to big challenges before. Now, it's time to do it again.

*NPS Photo*

Learning from Lewis and Clark

Have you ever worked hard to achieve a goal, even though it was frightening?

As Lewis and Clark prepared to leave on their expedition in the spring of 1803, the task ahead of them was daunting. After all, they were headed into a place they did not know, and could not be sure what they would encounter along the way. But they decided that their mission was important, and worth trying, even though it was challenging.

So, they prepared. Lewis asked for help from experts to learn the science that could be useful on the journey. He and Clark collected supplies, made plans, and assembled an expedition party with many different people, each with skills to contribute to the mission. They set off in the spring of 1803.

Over the next three and a half years, the Corps of Discovery traveled more than 8,000 miles. They had to persevere through hardships along the way, from animal encounters to disease and unexpected weather. But they were able to make it by working together. Everyone played a role according to their strengths—[even the dog](https://www.nps.gov/articles/000/seaman-s-contributions-to-the-lewis-and-clark-expedition.htm) (<https://www.nps.gov/articles/000/seaman-s-contributions-to-the-lewis-and-clark-expedition.htm>)!

Because they traveled through land that Indigenous Peoples had stewarded since time immemorial, they also worked together with people outside the group. The party asked for and accepted directions, supplies, and shelter from many different Tribal Nations along their route.

Now, as we face a future shaped by climate change, we have a lot to learn from Lewis and Clark and their expedition party. A daunting challenge faces us, but the mission is too important to ignore. We can succeed if we all work together—we just have to persevere on the journey.



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How did we get here?

People's greenhouse gas emissions are a major driver of modern climate change. Unlike climate change that happened in the geologic past, we are now seeing trends in weather and temperatures that are [caused by humans](https://science.nasa.gov/climate-change/causes/) (<https://science.nasa.gov/climate-change/causes/>). When we release greenhouse gases, like carbon dioxide, they stay in the atmosphere and act like a blanket that traps heat. The more greenhouse gases we release, the more heat gets trapped.

Most of our greenhouse gas emissions come from burning fossil fuels like coal, oil, or natural gas. As we continue to burn fossil fuels, climate change intensifies, and creates big problems for people and wildlife.

Climate change along the trail

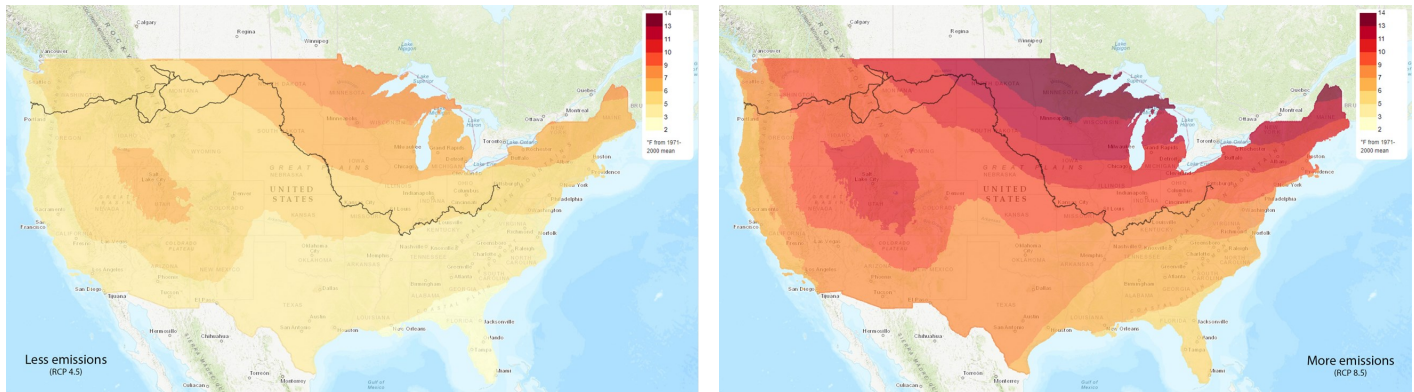
What has been happening with climate change, and what is going to happen?

Climate change affects everyone, everywhere. However, those impacts might play out differently—or be more or less extreme—in different places. The length of the Lewis and Clark National Historic Trail gives us a great opportunity to look at climate change on a broad scale and see those similarities and differences.

Temperatures

No matter where you are, temperatures are increasing. And they are going to keep rising—but exactly how much depends on us.

Use the slider below to compare how much temperatures are expected to increase in two different greenhouse gas emissions scenarios: one where people keep burning fossil fuels at a high rate (right), and one with lower emissions (left). The colors represent how much scientists predict average temperatures will go up by 2099, compared to temperatures before 2000¹.



Extreme precipitation

Climate change is also causing more extreme precipitation. It can be hard to say whether the total amount of rain and snow in any given place will go up or down, but science shows that warming temperatures lead to extreme precipitation events happening more often.

When these extreme events happen, a lot of rain, sleet, or snow is released in a much shorter amount of time than normal. Those heavy precipitation events are followed by drier, and often longer, periods of drought.

More extreme precipitation events, combined with extreme temperatures, cause lots of problems. Wildfires, tornadoes, flooding, and droughts are becoming more common and more intense across the country².

Other climate impacts

Use the tabs below to explore other ways climate change impacts people and ecosystems along the trail.

Trees and forests

Prairies

Wildlife

Rivers and water systems

Sea level rise

Human health



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Where do we go from here?

Climate change poses a daunting challenge, but we know that ensuring an inhabitable, comfortable, and biodiverse world depends on us. If we take action, we can make a big difference.

In order to work toward a brighter future for everyone, we must use all the tools available to us. One important resource is history. Learning from the stories of our past can help inform how we approach the future. That way, we can emulate decisions that worked, and avoid repeating old mistakes.

What can we learn about our response to climate change from the Lewis and Clark expedition?

Persistence and collaboration

Careful observation

Including all voices

Doing our part

The National Park Service is doing our part to be sustainable, and keep parks and people safe from the impacts of climate change. Our [climate change response strategy \(https://www.nps.gov/subjects/climatechange/response-strategy.htm\)](https://www.nps.gov/subjects/climatechange/response-strategy.htm)



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lays out four main ways we are working on this.

- Understand and research the science of climate change, and use it to inform park choices.
- Adapt to changing conditions by including climate change in park planning, working to protect important natural and cultural resources from climate change, and keeping park visitors safe even as conditions become more extreme.
- Mitigate our greenhouse gas emissions, through programs like the [Climate Friendly Parks program \(https://www.nps.gov/subjects/climatechange/cfpprogram.htm\)](https://www.nps.gov/subjects/climatechange/cfpprogram.htm) and the [Green Parks Plan \(https://www.nps.gov/subjects/sustainability/green-parks.htm\)](https://www.nps.gov/subjects/sustainability/green-parks.htm).
- Communicate about climate change with park staff and the public, and inspire others to be stewards of places they love!

Learn more about sustainability at park sites along the trail:

- [Sustainability - Gateway Arch National Park \(U.S. National Park Service\) \(nps.gov\) \(https://www.nps.gov/jeff/getinvolved/sustainability.htm\)](https://www.nps.gov/jeff/getinvolved/sustainability.htm)
- [Climate Friendly Parks - Nez Perce National Historical Park \(U.S. National Park Service\) \(nps.gov\) \(https://www.nps.gov/nepe/learn/management/climate-friendly-parks.htm\)](https://www.nps.gov/nepe/learn/management/climate-friendly-parks.htm)

Doing your part

Everyone has a role to play in response to climate change. Think about what resources you have, or what you enjoy doing. Is there a connection between those things and climate action?

You do not have to do it by yourself. Lewis and Clark did not face the challenge of their expedition on their own! They worked with others both in and out of their expedition party, and they would not have succeeded on their journey without the help of Indigenous Nations along the way.

In the same way, we can face the challenge of climate change by working together. You can make a big difference when you work with the people around you.

Here some ideas of ways you can make a difference in your community:



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- Share your thoughts about climate change with your community. Tell them why you care! Your voice has an impact, especially with people you know.
- [Reduce your carbon footprint \(https://www.nps.gov/subjects/connectedconservation/get-involved.htm\)](https://www.nps.gov/subjects/connectedconservation/get-involved.htm). Then, tell your family and friends what you did, and encourage them to try it too.
- Be an active citizen, and share your opinions about climate change with your government representatives.
- Build sustainability into your community. Think about the organizations you are in—your place of work, school, or worship. How can those groups take action toward reducing the use of fossil fuels? How can you get involved in making that happen?
- Volunteer with the Lewis and Clark National Historic Trail, local park sites, or other local organizations that help ecosystems.

References

Climate Stories from the Lewis and Clark Trail

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LEWIS & CLARK NATIONAL HISTORIC TRAIL

Cannon Beach

(<https://www.nps.gov/articles/000/cannon-beach.htm>)

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(<https://www.nps.gov/articles/000/cannon-beach.htm>)

Climate change threatens the Oregon coast with erosion and flooding, placing historical cultural sites at risk.

LEWIS & CLARK NATIONAL HISTORIC TRAIL

Fort Clatsop—Pacific Northwest Tribes and Climate Change

(<https://www.nps.gov/articles/000/fort-clatsop-pacific-northwest-tribes-and-climate-change.htm>)



(<https://www.nps.gov/articles/000/fort-clatsop-pacific-northwest-tribes-and-climate-change.htm>)

Northwest Tribal nations have developed climate change action plans to protect their historical and contemporary relationships with the land and its cultural



resources.

LEWIS & CLARK NATIONAL HISTORIC TRAIL

Cowlitz River

(<https://www.nps.gov/articles/000/cowlitz-river.htm>)



(<https://www.nps.gov/articles/000/cowlitz-river.htm>)

Forest that was too thick for expedition members to push through is increasingly threatened by fire, disease, and insects.

LEWIS & CLARK NATIONAL HISTORIC TRAIL

Ridgefield National Wildlife Refuge

(<https://www.nps.gov/articles/000/ridgefield-national-wildlife-refuge.htm>)



(<https://www.nps.gov/articles/000/ridgefield-national-wildlife-refuge.htm>)

Ridgefield NWR helps preserve habitat for waterfowl species that kept Lewis and Clark up all night when they camped near here.

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Beacon Rock

(<https://www.nps.gov/articles/000/beacon-rock.htm>)



(<https://www.nps.gov/articles/000/beacon-rock.htm>)

Increased heat and drought bring greater wildfire danger to the banks of the Columbia River.

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Clearwater Canoe Camp

(<https://www.nps.gov/articles/000/clearwater-canoe-camp.htm>)



(<https://www.nps.gov/articles/000/clearwater-canoe-camp.htm>)

Warmer winters are allowing pine beetles to kill more of the large trees Lewis



and Clark relied upon to make canoes.

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Lolo Pass

(<https://www.nps.gov/articles/000/lolo-pass.htm>)



(<https://www.nps.gov/articles/000/lolo-pass.htm>)

Glaciers and deep summer snowpack that hampered the expedition's journey through the Bitterroot Mountains are largely gone due to climate change.

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Ross' Hole—Indigenous Nations Address Climate Change in the Intermountain West

(<https://www.nps.gov/articles/000/ross-hole-indigenous-nations-address-climate-change-in-the-intermountain-west.htm>)



(<https://www.nps.gov/articles/000/ross-hole-indigenous-nations-address-climate-change-in-the-intermountain-west.htm>)

Indigenous nations who helped the Lewis and Clark Expedition succeed are now tackling climate change problems in their homelands.

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Salmon River, Idaho

(<https://www.nps.gov/articles/000/salmon-river-idaho.htm>)



(<https://www.nps.gov/articles/000/salmon-river-idaho.htm>)

High temperatures and low water flow threaten salmon in the river where the Lewis and Clark Expedition once caught more than 500 fish.



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Clark's Lookout

(<https://www.nps.gov/articles/000/clark-s-lookout.htm>)

Since the expedition struggled up the Beaverhead River, water conditions have worsened due to climate change and high demand by water users.

Tags: [climate change \(https://www.nps.gov/media/article-search.htm?q=climate change\)](https://www.nps.gov/media/article-search.htm?q=climate%20change)

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